

=====

Sequence Listing was accepted with existing errors.

See attached Validation Report.

If you need help call the Patent Electronic Business Center at (866)
217-9197 (toll free).

Reviewer: Anne Corrigan

Timestamp: Wed Jun 13 17:58:11 EDT 2007

=====

Application No: 10506925

Version No: 2.1

Input Set:

Output Set:

Started: 2007-06-13 17:58:00.463

Finished: 2007-06-13 17:58:01.307

Elapsed: 0 hr(s) 0 min(s) 0 sec(s) 844 ms

Total Warnings: 16

Total Errors: 0

No. of SeqIDs Defined: 16

Actual SeqID Count: 16

| Error code | Error Description |
|------------|---|
| W 213 | Artificial or Unknown found in <213> in SEQ ID (1) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (2) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (3) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (4) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (5) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (6) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (7) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (8) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (9) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (10) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (11) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (12) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (13) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (14) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (15) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (16) |

SEQUENCE LISTING

<110> Neurogenex Co., Ltd.

<120> ENHANCED INSERTED YELLOW FLUORESCENCE PROTEIN AND ITS

<130> 100528.0007US1

<140> US 10/506,925

<141> 2004-09-07

<150> KR10-2002-0012409

<151> 2002-03-08

<150> KR10-2002-0015217

<151> 2002-03-21

<150> KR10-2002-0015219

<151> 2002-03-21

<160> 16

<170> PatentIn version 3.4

<210> 1

<211> 245

<212> PRT

<213> Artificial Sequence

<220>

<223> y-citrine of fluorescence protein

<400> 1

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Val | Ser | Lys | Gly | Glu | Glu | Leu | Phe | Thr | Gly | Val | Val | Pro | Ile | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Glu | Leu | Asp | Gly | Asp | Val | Asn | Gly | His | Lys | Phe | Ser | Val | Ser | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Gly | Glu | Gly | Asp | Ala | Thr | Tyr | Gly | Lys | Leu | Thr | Leu | Lys | Phe | Ile |
| | | 35 | | | | | | 40 | | | | 45 | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Thr | Thr | Gly | Lys | Leu | Pro | Val | Pro | Trp | Pro | Thr | Leu | Val | Thr | Thr |
| | 50 | | | | | 55 | | | | | 60 | | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Gly | Tyr | Gly | Leu | Met | Cys | Phe | Ala | Arg | Tyr | Pro | Asp | His | Met | Lys |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | His | Asp | Phe | Phe | Lys | Ser | Ala | Met | Pro | Glu | Gly | Tyr | Val | Gln | Glu |
| | | | 85 | | | | | | 90 | | | | | 95 | |

Arg Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu
100 105 110

Val Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly
115 120 125

Ile Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr
130 135 140

Asn Tyr Gly Gly Ser Gly Ala Ser Asn Ser His Asn Val Tyr Ile Met
145 150 155 160

Ala Asp Lys Gln Lys Asn Gly Ile Lys Val Asn Phe Lys Ile Arg His
165 170 175

Asn Ile Glu Asp Gly Ser Val Gln Leu Ala Asp His Tyr Gln Gln Asn
180 185 190

Thr Pro Ile Gly Asp Gly Pro Val Leu Leu Pro Asp Asn His Tyr Leu
195 200 205

Ser Tyr Gln Ser Ala Leu Ser Lys Asp Pro Asn Glu Lys Arg Asp His
210 215 220

Met Val Leu Leu Glu Phe Val Thr Ala Ala Gly Ile Thr Leu Gly Met
225 230 235 240

Asp Glu Leu Tyr Lys
245

<210> 2

<211> 245

<212> PRT

<213> Artificial Sequence

<220>

<223> Peridot of fluorescence protein

<400> 2

Met Val Ser Lys Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu
1 5 10 15

Val Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly
20 25 30

Glu Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile
35 40 45

Cys Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr
50 55 60

Phe Gly Tyr Gly Leu Met Cys Phe Ala Arg Tyr Pro Asp His Met Lys
65 70 75 80

Gln His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu
85 90 95

Arg Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu
100 105 110

Val Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly
115 120 125

Ile Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr
130 135 140

Asn Tyr Gly Gly Ser Gly Ala Ser Asn Ser His Asn Val Tyr Ile Met
145 150 155 160

Ala Asp Lys Gln Lys Asn Gly Ile Lys Val Asn Phe Lys Ile Arg His
165 170 175

Asn Ile Glu Asp Gly Ser Val Gln Leu Ala Asp His Tyr Gln Gln Asn
180 185 190

Thr Pro Ile Gly Asp Gly Leu Val Leu Leu Pro Asp Asn His Tyr Leu
195 200 205

Ser Tyr Gln Ser Ala Leu Ser Lys Asp Pro Asn Glu Lys Arg Asp His
210 215 220

Met Val Leu Leu Glu Phe Val Thr Ala Ala Gly Ile Thr Ile Gly Met
225 230 235 240

Asp Glu Leu Tyr Lys
245

<210> 3
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> BamHi/5AB-F primer

<400> 3
gggggggatcc gaggctggtg aggacgttgt ctgctgctcg atgtc 45

<210> 4
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Nhe1/5AB-R primer

<400> 4
gggggctagc acctgtccat gtgtaggaca tcgagcagca gacaa 45

<210> 5
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> BamHI/CaM F primer

<400> 5
gggggatcca tgcattgacca actgacagaa 30

<210> 6
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> NheI/CaM R primer

<400> 6
ggggctagcc ttgctgtca tcatttgtac 30

<210> 7
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Hind3/EYFP (Y145MEL)-F primer

<400> 7
ggggaagctt gggatggagc tcaacagcca caac 34

<210> 8
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> BamHI,NheI/Yins-R primer

<400> 8
gttgctagca ccggatccac cgtagttgta ctccagctt 39

<210> 9
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> BamHI,NheI/Yins-F primer

<400> 9
tacggtggat ccggtgctag caacagccac aacgtctat 39

<210> 10
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> NotI/EYFP(Y145GGT)-R primer

<400> 10
gggggcggcc gcctaggtac caccgttgta ctc 33

<210> 11
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Hind3/EYFP(Y145MEL)-F primer

<400> 11
ggggaagctt gggatggagc tcaacagcca caac 34

<210> 12
<211> 33
<212> DNA
<213> Artificial Sequence

<220>

<223> NotI/EYFP(Y145GGT)-R primer

<400> 12

gggggcggcc gcctaggtac caccgttgta ctc

33

<210> 13

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Bio-Cart for Calcium

<400> 13

atggtgagca agggcgagga gctgttcacc ggggtggtgc ccatcctggt cgagctggac 60

ggcgacgtaa acggccacaa gttcagcgtg tccggcgagg gcgaggcgga tgccacctac 120

ggcaagctga ccttgaagtt catctgcacc accggcaagc tgcccgtgcc ctggcccacc 180

ctcgtgacta ctttcggcta cggcctgatg tgcttcgccc gctaccccgga ccacatgaag 240

cagcacgact ttttcaagtc cgccatgccc gaaggetacg tccaggagcg caccatcttc 300

ttcaaggacg acggcaacta caagaccgc gccgaggtga agttcgaggg cgacaccctg 360

gtgaaccgca tcgagctgaa gggcatcgac ttcaaggagg acggcaacat cctggggcac 420

aagctggagt acaactacgg tggatccatg catgaccaac tgacagaaga gcagatcgca 480

gaattttaaag aggttttctc cctatttgac aaggacgggg atgggacaat aacaaccaag 540

gagctgggga cggatgatgc gtctctgggg cagaacccca cagaagcaga gctgcaggac 600

atgatcaatg aagtagatgc cgacggtaat ggcacaatcg acttcctga gttcctgaca 660

atgatggcaa gaaaaatgaa agacacagac agtgaagaag aaattagaga agcgttccgt 720

gtgtttgata aggatggcaa tggtacatc agtgcagcag agcttcgcca cgtgatgaca 780

aaccttgag agaagttaac agatgaagag gttgatgaaa tgatcaggga agcagacatc 840

gatggggatg gtcaggtaaa ctacgaagag tttgtacaaa tgatgacagc aaaggctagc 900

aacagccaca acgtctatat catggccgac aagcagaaga acggcatcaa ggtgaacttc 960

aagatccgcc acaacatcga ggacggcagc gtgcagctcg ccgaccacta ccagcagaac 1020

accccatcg gcgacggcct cgtgctgctg cccgacaacc actacctgag ctaccagtcc 1080

gccttgagca aagaccccaa cgagaagcgc gatcacatgg tctgtctgga gttcgtgacc 1140

gccgccggga tcactatcgg catggacgag ctgtacaagt aa 1182

<210> 14
 <211> 48
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> BamHI/DEVD F primer

 <400> 14
 ggggggatccg ccatcaagaa tgaaggaaag agaaaaggcg acgaggtg 48

 <210> 15
 <211> 49
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> NheI/DEVD R primer

 <400> 15
 ggggctagcg gccacttcat ctgttccatc cacctcgctcg ccttttctc 49

 <210> 16
 <211> 795
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> DEVDins of Bio-sensor

 <400> 16
 atggtgagca agggcgagga gctgttcacc ggggtggtgc ccatcctggt cgagctggac 60
 ggcgacgtaa acggccacaa gttcagcgtg tccggcgagg gcgagggcga tgccacctac 120
 ggcaagctga ccttgaagtt catctgcacc accggcaagc tgcccgtgcc ctggcccacc 180
 ctctgacta ccttcggcta cggcctgatg tgcttcgccc gctaccccgga ccacatgaag 240
 cagcacgact ttttcaagtc cgccatgccc gaaggetacg tccaggagcg caccatcttc 300
 ttcaaggacg acggcaacta caagaccgc gccgaggtga agttcgaggg cgacaccctg 360
 gtgaaccgca tcgagctgaa gggcatcgac ttcaaggagg acggcaacat cctggggcac 420
 aagctggagt acaactacgg tggatccgcc atcaagaatg aaggaaagag aaaaggcgac 480
 gaggtggatg gaacagatga agtggccgct agcaacagcc acaacgtcta tatcatggcc 540
 gacaagcaga agaacggcat caaggtgaac ttcaagatcc gccacaacat cgaggacggc 600
 agcgtgcagc tcgccgacca ctaccagcag aacaccccca tcggcgacgg cctcgtgctg 660
 ctgcccgaca accactacct gagctaccag tccgccctga gcaaagaccc caacgagaag 720

cgcgatcaca tggctctgct ggagttcgtg accgccgccg ggatcactct cggcatggac 780

gagctgtaca agtaa 795